Annual Report

to the

INTERNATIONAL JOINT COMMISSION
CANADA AND UNITED STATES
IJC.ORG

from the

International Osoyoos Lake Board of Control

for

Calendar Year 2001

International Joint Commission

INTERNATIONAL OSOYOOS LAKE BOARD OF CONTROL
1201 Pacific Avenue, Suite 600
Tacoma, Washington 98402

March 20, 2002

Dr. Gerald Galloway
Secretary, United States Section
International Joint Commission
1250 23rd Street NW., Suite 100, Stop 86
Washington, DC 20440

Dr. Murray Clamen
Secretary, Canadian Section
International Joint Commission
234 Laurier Avenue W., 22nd Floor
Ottawa, Ontario K1P 6K6

Gentlemen:

We hereby submit the Calendar Year 2001 Annual Report of the International Osoyoos Lake Board of Control.

The report sets forth the operation of the control works on Osoyoos Lake under the terms of the Commission's Orders dated December 9, 1982, and October 17, 1985.

Respectfully submitted:

For the United States

Cynthia Barton
Chair, United States Section
District Chief, Washington District
Water Resources Division
U.S. Geological Survey
Tacoma, Washington

For Canada

Kirk Johnstone
Chair, Canadian Section
Manager, Aquatic and Atmospheric Sciences Division
Pacific & Yukon Region
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The International Osoyoos Lake Board of Control was established on September 12, 1946, by the International Joint Commission to carry out the provisions of the Commission's Order of Approval. The Board currently operates in accordance with the Commission's Order of Approval dated December 9, 1982, and the Supplementary Order of Approval dated October 17, 1985.

1) ACTIVITIES OF THE BOARD

In 2001, drought conditions were in effect from April 1 – October 31 as a result of the Similkameen River flow (forecast and actual) for April-July being less than 1.0 million acre-feet. (The actual flow volume of 567,000 acre-feet ranked the lowest in 73 years of record.) The Board informed the Washington State Department of Ecology of the drought declaration with a letter dated April 9, 2001. A notice of the drought declaration (shown below) was published in local newspapers on both sides of the International Border and was posted on the Board's public Web page. The Board received no public complaints about the 2001 lake levels.

NOTICE OF OSOYOOS LAKE
DROUGHT YEAR OPERATION

The U.S. National Weather Service's April 6 forecast of volume of flow in the Similkameen River at Nighthawk, Washington, for April through July 2001 is 605,000 acre-feet. This forecast meets the criteria for a drought-year declaration for Osoyoos Lake as specified in Condition 8a of the International Joint Commission Order of Approval dated December 9, 1982. Effective April 1, 2001, drought conditions exist and the State of Washington may regulate Osoyoos Lake between elevations 910.5 and 913.0 feet USCGS (U.S. Coast and Geodetic Survey). This drought declaration will continue until October 31, 2001. The declaration will be rescinded before October 31 if hydrologic conditions change such that none of the drought criteria specified in Condition 8 continue to be met.

International Osoyoos Lake Board of Control
April 1, 2001

For additional information contact:
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http://wwwdwatcm.wr.usgs.gov/IJC/osoy.homepage.html

On April 4, 2001, the Board participated in a video teleconference with the IJC. The Board discussed 2001 drought conditions, the western power supply situation and potential implications for Osoyoos Lake (which were minimal at best), and an update on the Board's actions in preparation for renewal of the Orders.

A formal meeting of the Board was held on October 3, 2001, in Osoyoos, B.C. At the public meeting following the Board meeting, presentations were made on Osoyoos Lake, Zosel Dam and the Orders of Approval, 2001 hydrologic conditions, and Zosel Dam operations. Attendance was 30, of which 10 were from the general public.

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2) OPERATION AND MAINTENANCE OF ZOSEL DAM

a. Osoyoos Lake Elevations

As shown by the blue area in appendix I, authorized normal operating elevations in Osoyoos Lake range from 911.0 to 911.5 feet from April 1 to October 31 and from 909.0 to 911.5 feet for the remainder of the year. The gray area in appendix I shows the authorized range of elevations, 910.5 to 913.0 feet, that may be used to manage storage from April 1 to October 31 if drought conditions are declared by the Board in accordance with Condition 8 of the Orders of Approval.

Condition 9 of the Orders of Approval recognizes that backwater from high flow in the Similkameen River and (or) excessive flow in the Okanagan River can cause Osoyoos Lake levels to rise above the authorized range.

The level of Osoyoos Lake was within the levels authorized in the Order of Approval all year.

The maximum instantaneous elevation of Osoyoos Lake occurred on June 1 and July 17 at 912.56 feet.

Osoyoos Lake

The maximum daily mean elevation occurred on July 17 and 30 at 912.52 ft.

The maximum instantaneous discharge of the Okanogan River at Oroville occurred on May 15 from 0900 to 1145 hours and was 1,260 cubic feet per second.

Osoyoos Lake elevations for water years 1999-2001 are shown in appendix I. Five days of record in October were not obtained due to a malfunction at the lake gage.

Data on Osoyoos Lake levels and relevant river flows are summarized in appendix II and depicted in the hydrographs in appendix III.

b. Zosel Dam

In 2001, the Oroville-Tonasket Irrigation District operated Zosel Dam under authority from the State of Washington, Department of Ecology.

Zosel Dam - 1970's

New Zosel Dam

3) OKANOGAN RIVER CHANNEL CAPACITY

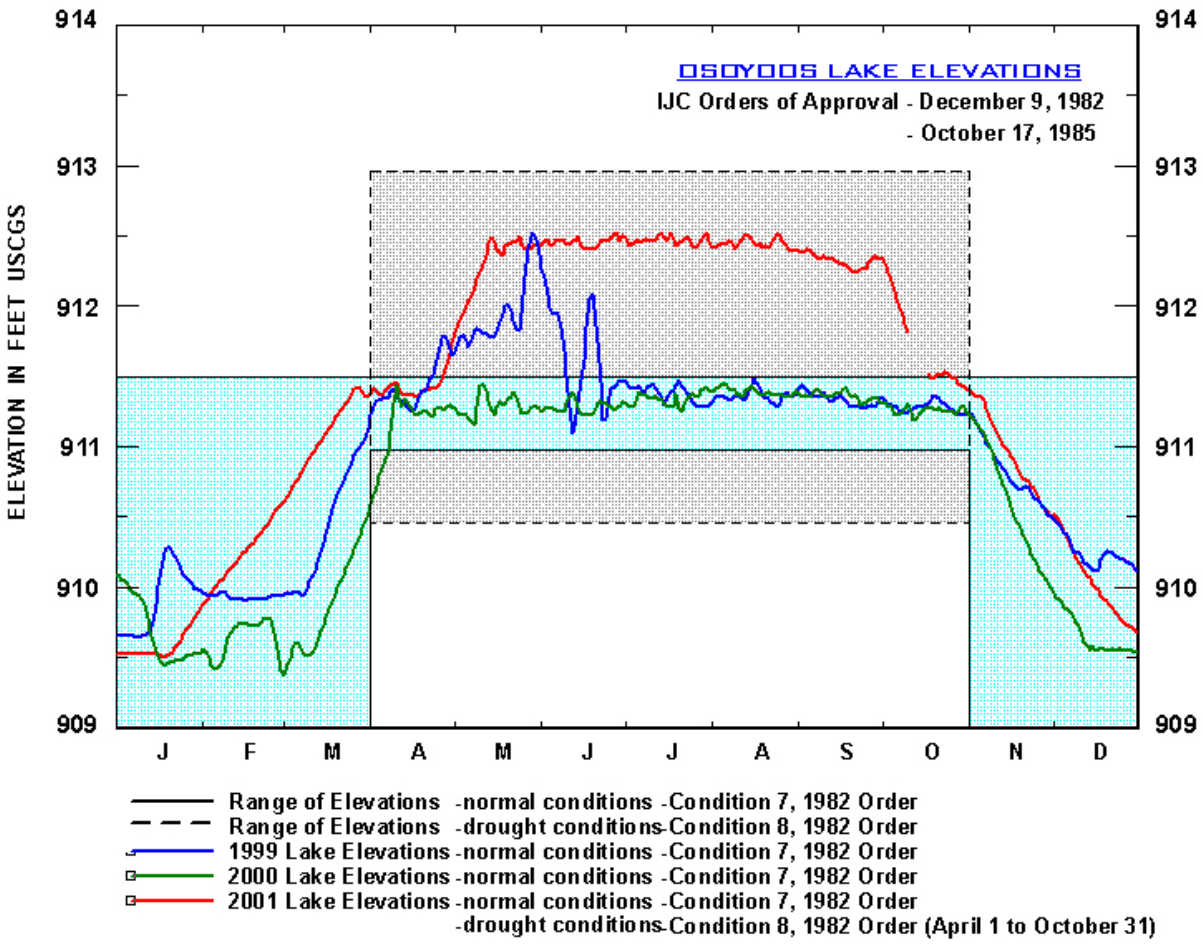
Condition 4 of the IJC Order of Approval (December 9, 1982), and subsequently revised by the Supplementary Order of Approval (October 17, 1985), calls for the applicant (State of Washington Department of Ecology) to "...take all measures to ensure that the flow capacity of the Okanogan River, upstream and downstream from the control structure, enables the control structure to pass at least 2,500 cubic feet per second when the elevation of Osoyoos Lake is 913.0 feet USCGS and there is no appreciable backwater effect from the Similkameen River."

The Board obtains confirmation from the State of Washington regarding the capacities of the Okanogan River Channel. Hydrologic conditions in 1997, 1998, and 1999 demonstrated that water is able to move out of the lake, through the outlet channel, and past the dam at a rate greater than 2,500 cubic feet per second with the lake at an elevation less than 913.0 feet and no appreciable backwater effect from the Similkameen River.

Tonasket Creek enters a bypass reach of the outlet channel that was designed to accept the creek's sediment load deposits. The Tonasket Creek alluvial fan has not impaired the capacity of the main outlet channel to perform according to requirements of Condition 4.

Mouth of Tonasket Creek – looking south to Zosel Dam

APPENDIX I


OSOYOOS LAKE ELEVATIONS
IJC Orders of Approval - December 9, 1982
- October 17, 1985
ELEVATION IN FEET USCGS
914
913
912
911
910
909
J
F
M
A
M
J
J
A
S
O
N
D
Range of Elevations -normal conditions -Condition 7, 1982 Order
Range of Elevations -drought conditions-Condition 8, 1982 Order
1999 Lake Elevations -normal conditions -Condition 7, 1982 Order
2000 Lake Elevations -normal conditions -Condition 7, 1982 Order
2001 Lake Elevations -normal conditions -Condition 7, 1982 Order
-drought conditions-Condition 8, 1982 Order (April 1 to October 31)

APPENDIX II.-- OSOYOOS LAKE LEVELS, INFLOWS, AND OUTFLOWS

A. International gaging stations in operation throughout the year:

(1) For Stage Records

Osoyoos Lake near Oroville, Washington
Okanogan River at Oroville, Washington (auxiliary gage)

(2) For Discharge Records

Okanagan River near Oliver, British Columbia
Okanogan River near Oroville, Washington (base gage)
Similkameen River near Nighthawk, Washington

(3) Reports

Monthly summary reports of stage and discharge data were forwarded to the International Joint Commission and to the Board of Control members.

B. Compliance with the lake levels specified in the Orders of Approval is measured at the station "Osoyoos Lake near Oroville," where elevations are expressed in terms of USCGS datum.

C. Osoyoos Lake

Maximum daily mean elevation	278.136 meters – July 17 & 30 (912.52 feet)
Maximum instantaneous elevation	278.148 meters – June 1 & July 17 (912.56 feet)
Minimum instantaneous elevation	277.206 meters – January 5 (909.47 feet)
Lake elevation at time of peak flow for Okanogan River at Oroville	278.127 meters – May 15 (912.49 feet)

D. Okanogan River at Oroville

Maximum instantaneous discharge	35.7 cms - May 15 (1,260 cfs)
Maximum daily mean discharge	20.5 cms - May 15 (724 cfs)
Annual mean discharge	7.56 cms (267 cfs)

The annual mean discharge was 38 percent of the 59-year average of 697 cfs.

E. Similkameen River near Nighthawk

Maximum instantaneous discharge	243 cms – May 24 (8,570 cfs)
Maximum daily mean discharge	230 cms – May 25 (8,110 cfs)

High river discharges and stages created backwater conditions for the Okanogan River at Oroville gaging station from May 23 - 29.

APPENDIX III